

WHAT IS CLAIMED IS:

1. An isolated and purified nucleic acid molecule encoding an infectious GBV-C, wherein the nucleic acid molecule encodes SEQ ID NO:20, or a variant thereof.
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2. The isolated and purified nucleic acid molecule of claim 1, wherein the nucleic acid molecule encodes SEQ ID NO:20.
- 10 3. The isolated and purified nucleic acid molecule of claim 1, wherein the nucleic acid is RNA.
4. The isolated and purified nucleic acid molecule of claim 1, wherein the nucleic acid is DNA.
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5. The nucleic acid molecule of claim 1, further comprising a heterologous nucleic acid sequence.
6. The nucleic acid molecule of claim 5, wherein the heterologous nucleic acid sequence encodes a polypeptide.
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7. The nucleic acid molecule of claim 6, wherein the polypeptide is a mammalian polypeptide.
- 25 8. The nucleic acid molecule of claim 1, further comprising a heterologous promoter.
9. An isolated and purified infectious GBV-C comprising a nucleic acid that encodes SEQ ID NO:20 or a variant thereof.
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10. The isolated and purified infectious GBV-C of claim 9, wherein the nucleic acid encodes SEQ ID NO:20.

11. A host cell comprising a nucleic acid molecule encoding an infectious GBV-C, wherein the nucleic acid molecule encodes SEQ ID NO:20, or a variant thereof.
- 5 12. The host cell of claim 11 comprising a nucleic acid molecule that encodes SEQ ID NO:20.
- 10 13. The host cell of claim 12, wherein the cell is a mammalian cell.
14. The host cell of claim 13, wherein the cell is a lymphocyte cell.
- 15 15. The host cell of claim 14, wherein the cell is CD4+ lymphocyte cell.
16. A method of inhibiting HIV disease progression in a subject infected with HIV comprising administering to the subject an effective amount of an isolated and purified nucleic acid molecule encoding an infectious GBV-C sequence, wherein the nucleic acid molecule encodes SEQ ID NO:20 or a variant thereof.
- 20 17. The method of claim 16, further comprising administering to the subject AZT or at least one protease inhibitor.
18. A method of inhibiting HIV disease progression in a subject infected with HIV comprising administering to the subject an effective amount of an isolated and purified infectious GBV-C comprising a nucleic acid molecule, wherein the nucleic acid molecule encodes SEQ ID NO:20 or a variant thereof.
- 25 19. The method of claim 18, further comprising administering to the subject AZT or at least one protease inhibitor.
- 30 20. A method of inhibiting HIV infection in a subject comprising administering to the subject an effective amount of an isolated and

purified nucleic acid molecule encoding an infectious GBV-C, wherein
the nucleic acid molecule encodes SEQ ID NO:20 or a variant thereof.

21. A method of inhibiting HIV infection in a CD4+ cell comprising
5 contacting the cell with an effective amount of an isolated and purified
nucleic acid molecule encoding an infectious GBV-C, wherein the
nucleic acid molecule encodes SEQ ID NO:20 or a variant thereof.

22. A method of inhibiting a HIV replication in a cell comprising contacting
10 the cell with an effective amount of an isolated and purified nucleic acid
molecule, wherein the nucleic acid molecule encodes SEQ ID NO:20 or a
variant thereof, in an amount effective to inhibit HIV replication in the
cell.

15 23. The method of claim 22, wherein the cell is a CD4+ cell.

24. The method of claim 22, further comprising contacting the cell with AZT
or a protease inhibitor.

20 25. The method of claim 22, wherein the cell is in an animal.

26. The method of claim 23, wherein the animal is a human.

27. A method of treating a subject infected with HIV comprising
25 administering to a cell of the subject an effective amount of an infectious
GBV-C, wherein the GBV-C comprises a nucleic acid sequence
encoding SEQ ID NO:20 or a variant thereof, and a heterologous nucleic
acid sequence.

30 28. A method of expressing a heterologous nucleic acid sequence comprising
providing to a cell an isolated and purified nucleic acid construct
comprising an infectious GBV-C comprising a nucleic acid molecule,

wherein the nucleic acid molecule encodes SEQ ID NO:20 or a variant therefor, and the heterologous nucleic acid sequence.

29. The method of claim 28, wherein the heterologous nucleic acid sequence
5 encodes a polypeptide.
30. The method of claim 29, wherein the polypeptide is an antigen.
31. The method of claim 28, wherein the cell is a mammalian cell.
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32. The method of claim 31, wherein the mammalian cell is in a mammal.
33. A method of inducing an immune response in a subject comprising
administering to the subject an amount of an expression construct
comprising a GBV-C nucleic acid sequence, wherein the sequence
15 encodes SEQ ID NO:20 or a variant thereof, and a heterologous nucleic
acid sequence operably linked to a promoter, wherein the heterologous
nucleic acid sequence encodes a polypeptide, effective to elicit an
immune response against the polypeptide.
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34. An isolated and purified nucleic acid molecule comprising SEQ ID
NO:19 or a variant thereof.